GRAIN STANDARDIZATION[1]

With the development of the American grain industry in the middle of the nineteenth century and the creation of a large marketable surplus of grain, the need for a more efficient method of trade than sale by sample or by the presentation of the grain became imperative. The construction of storage capacity to be used by different owners of grain, the purchase and sale of large volumes of grain where the personal relations of buyer and seller were lost, and the fulfilment of contracts that extend over a period of time, called for a new trade language that might serve as a common basis for comparing values and for providing a more satisfactory method of establishing market price.

The pioneer work in developing the inspection and grading of grain fell to the grain exchanges which were empowered to provide rules and regulations that govern the dealings between their respective members, who were solicitous for having a more economical distributing system, if for no other reason than private gain. The principal reason for exchange rather than private inspection was the early recognition of the necessity for impartial inspection if the new language were to become articulate. The first grain inspector at Minneapolis was employed by the Millers' Federation but the Minneapolis Chamber of Commerce, shortly after its organization, assumed full control of the inspection and grading service. At Boston and Philadelphia, during the early history of inspection, the grain exchanges established the grade standards and appointed the chief inspector who assumed full responsibility for the collection of inspection fees and for the finances of the inspection department; but this financial arrangement has been discontinued and the exchange inspection departments are now fully responsible for the inspection service because the temptation to manipulate the standards to the profit of the chief inspector was considered too great.

It is reasonable to suppose that the control of inspection has been more impartial when administered by the middleman organization where the competing interests of buyers and sellers meet than if the control had been exercised by a producers' or a consumers' organization. On the other hand, exchange inspection has not been entirely free from trade influence. The occasional change, or attempt to change the standards during a period of market manipulation, and the occasional lowering of the standards to suit the convenience of the selling interests when the quality of the crop is poor have nevertheless exerted an influence out of proportion to their frequency to destroy the confidence

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of interested dealers in the reliability of the means by which they estimate quality and hence determine the price to be paid. A market risk is thereby created that must be compensated for in a wider spread in the price between the producer of grain and the consumer. The distrust of exchange inspection, moreover, that is engendered among producers by these methods and the omission of producer representation in the exchange control is largely responsible for the movement for political inspection in the principal grain-producing sections and for the adoption of state inspection and federal control.

The broadening of the control of inspection, however, sacrifices the advantages of the non-political character of exchange inspection. The personnel of the grain committees that control exchange inspection changes slowly and the inspector who is capable and efficient may therefore expect a long tenure of office. This attracts capable men to a profession that demands the skill which comes from long experience and it breeds an efficiency that cannot be so readily obtained if an inspector's term of office depends upon the fortunes of political parties. On the other hand, the exchange inspection departments have not met the usual test of greater initiative and progress that is usually ascribed to private endeavor, due to the security from political favoritism. The state inspection departments and federal supervision have rather been the leaders in adopting new methods and equipment for grading while the exchanges have generally adhered to the older types.

The principle of uniform standards of grading is also important to an efficient inspection system. Three types of problems are involved here: first, uniform inspection of the grain arriving at and leaving a market; second, uniform grading between different markets; and, third, uniform grading over a period of time; but inasmuch as the absence or presence of uniformity affects the market price in much the same way under all circumstances, the different aspects of uniformity involve similar problems of price economics. By creating confusion rather than clarity in the meaning of grade terminology, the stabilization of the means through which supply and demand are expressed is lost, fluctuations in the market price are encouraged, and the attendant risks increase the cost of marketing. In a dynamic industry absolute rigidity of standards is impracticable, since new types of grain and new market conditions may make it desirable to change grade requirements from time to time; but such changes, whether effected by changes in grade descriptions or in method of application, should be preceded by sufficient notice to obviate any disturbance to the contractual relations of which the standards form the basis. Due to a difference in classification and in interpretation, the American decentralized inspection system that existed prior to the adoption of federal supervision and fed-

eral standards offers a good illustration of the effects of variations in the grades between the different markets. The chairman of the legislative grain committee of the National Grain Dealers' Association testifying before a congressional committee in 1914[2] estimated that in American grain markets there were about two hundred grades or variations in grading oats, sixty grades or variations in grading corn, and thirty grades or variations in grading rye. An improper understanding of the function of grades also too often caused the standards to fluctuate between competing markets. Large quantities of spring wheat of the 1915 crop, for example, that would normally have been marketed at Minneapolis were shipped to Chicago where, due to the unusual demand for spring wheat to be mixed with the winter wheat of poor quality, shippers secured better grades and better prices. Competition between the two principal wheat markets was therefore reduced to a basis of both grades and prices which tended to lower the standards, to add confusion to the trade, and to pervert the purpose of standardization. To avert the inconveniences and losses attending similar situations, the National Grain Dealers' Association adopted uniform grades for the principal grains in 1909, but six years' experience demonstrated the futility of its efforts in the absence of a central official organization with authority to compel the general adoption and uniform application of the standards.

Another type of confusion may come from the misuse of the grades by individual dealers. The practice of mixing a cheaper with a dearer grain, adding weed seeds to light barley, barley or even water to oats, or rye to wheat, to the detriment of the value of the grain for which the mixture is sold, is encouraged when the grades are not clearly defined, and the per cent of foreign material permitted in the different grades is not specifically stated. The evolution of standards to provide more definite, even mathematical grade requirements, discourages this practice by giving to the grain that carries an excess of harmful or valueless material a lower grade. This tendency to more technical grades may be criticized as increasing the difficulty of grading and sometimes delaying the movement of grain through the controversies that develop as a result of the technical points of grading. Yet, the prevention of adulteration through the inspection system is preferable to the regulation under the Pure Food and Drugs act which creates many uncertainties in the shipping of mixed grains. Moreover, to contend that competition will eliminate the misuse of the mixing privilege when the basis of competition is violated is fallacious reasoning.

[2] *Hearings before the Committee on Agriculture, House of Representatives,* Sixty-third Congress, on H. R. 14,493, a Bill Providing for the Uniform Grading of Grain and for Other Purposes (1914), p. 60.

Of the exaggerated criticisms of grain inspection, two are offered for consideration. The first concerns the prevalent belief that the standard of grading the receipts and the shipments at the important markets varies to the advantage of the predominant grain interests. The tendency among inspectors to give to the grain the benefit of any doubt regarding the grade does create the possibility of more liberal inspection of shipments than of receipts at the primary markets since much of the grain leaving the market has passed through the terminal elevators where it is mixed to meet the minimum requirements of the desired grade, whereas the grain arriving has not been so scientifically mixed at the country markets and thus represents a greater range of quality within a given grade. Careful analysis of the reinspections and appeals at a market whose inspection has been subjected to much criticism, however, reveals no conscious variation in the standards by the inspection department. Moreover, since this criticism of the "in" and "out" inspection at any given market invariably comes from producers and dealers who are located outside of the market and not from the dealers within the market, its origin doubtless lies in the suspicions that are aroused by the possibilities of manipulation of the standards, rather than in actual manipulations.

Another popular misconception is the belief that the price of grain bears no relation to the value of the dockage or foreign materials that it contains. Studies conducted at Minneapolis in 1916 by C. H. Bailey and the writer show that the foreign materials that are difficult to clean from wheat and which injure the baking quality of the flour depress the price of the grain in proportion as the foreign material is detrimental to the flour. Where the foreign material has a commercial value and can be readily separated from the grain, a small amount of dockage that does not pay for the cost of cleaning also depresses the price of the grain, but the grain that contains a large amount of the valuable separable foreign materials commands a premium which increases with an increase in the quantity and value of the dockage. The data obtained in this study further show that a loss is sometimes incurred on the grain with light dockage while a good profit is realized on the wheat containing heavy foreign material. Taking into consideration, however, the cost of cleaning the grain, the loss of grain during the cleaning process, and the loss due to an occasional erroneous determination of the dockage by the inspection department, it is not probable that the grain dealers have realized the large profits that are so often ascribed to the foreign material.

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